

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	: Nancy J. Tolan et al.	Art Unit	: 3677
Serial No.	: 10/688,032	Examiner	: Ruth C. Rodriguez
Filed	: October 15, 2003	Conf. No.	: 2173
Title	: LOW PROFILE TOUCH FASTENER		

Mail Stop Appeal Brief - Patents

Commissioner for Patents

P.O. Box 1450

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BRIEF ON APPEAL

Appellants are appealing the final rejection of claims 1-3, 5-20, 22-37, and 39-57 in the Office Action dated July 31, 2006 (herein "the Office Action") and respectfully request that the rejections be reversed.

A Pre-Appeal Request for Review, along with a Notice of Appeal and the required fee was filed October 30, 2006. The Panel's decision was mailed November 20, 2006, maintaining the rejections of the above-noted claims.

(1) REAL PARTY IN INTEREST

The real party in interest is Velcro Industries B.V., the assignee.

(2) RELATED APPEALS AND INTERFERENCES

There are no related pending appeals or interferences.

(3) STATUS OF CLAIMS

Claims 1-3, 5-20, 22-37, and 39-57 are pending.

Claims 1, 19, and 37 are in independent form.

Claims 4, 21, and 38 are cancelled.

(4) STATUS OF AMENDMENTS

All amendments have been entered.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

Independent claims 1, 19 and 37 are each directed to a releasable touch fastener (e.g. 100; Fig. 1; p. 6, line 28 through p. 7, line 4) including a loop component (e.g. 400; Figs. 13-15; p. 17, line 19 through p. 19, line 11) having a sheet-form loop base (e.g. 402; Figs. 15-17; p. 18, line 8 through p. 19, line 16) and an array of female fastener elements (e.g. 406; Figs. 13-14; p. 17, line 19 through p. 19, line 16) extending from the loop base (e.g. 402; Figs. 15-17; p. 18, line 8 through p. 19, line 16).

The releasable touch fastener (e.g. 100; Fig. 1; p. 6, line 28 through p. 7, line 4) also includes a hook component (e.g. 101, 102, 102a, 420; Figs. 3-5, 8, 18-23; p. 6, line 28 through p. 10, line 18; p. 12 lines 9-25; p. 19 lines 9-27) having a sheet-form hook base (e.g. 104, 304, 422; Fig. 3, 19, 19A, 21, 21A; p. 6, line 28 through p. 8, line 11; p. 19, line 28 through p. 20, line 24) and an array of male fastener elements (e.g. 106, 306, 424; Figs. 3-5, 8, 18-23; p. 6, line 28 through p. 10, line 18; p. 12 lines 9-25; p. 19 lines 9-27) extending from the base (e.g. 104, 304, 422; Fig. 3, 19, 19A, 21, 21A; p. 6, line 28 through p. 8, line 11; p. 19, line 28 through p. 20, line 24) and configured to releasably engage the female fastener elements (e.g. 406; Figs. 13-14; p.

17, line 19 through p. 19, line 16) of the loop component (e.g. 400; Figs. 13-15; p. 17, line 19 through p. 19, line 11).

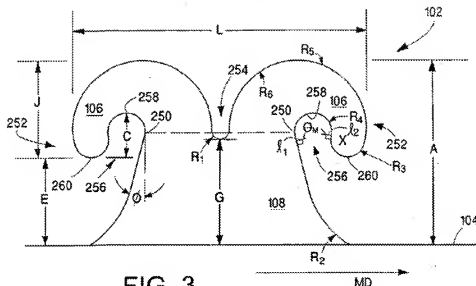


FIG. 3

Claim 1 requires, in pertinent part, that the loop component (e.g. 400; Figs. 13-15; p. 17, line 19 through p. 19, line 11) and the hook component (e.g. 101, 102, 102a, 420; Figs. 3-5, 8, 18-23; p. 6, line 28 through p. 10, line 18; p. 12 lines 9-25; p. 19 lines 9-27) are configured such that the fastener has an *engaged thickness* of less than about 0.11 inch and a *final peel resistance* of at least 0.3 pound per inch of closure width.

Engaged thickness and final peel resistance are measurable properties of a complete fastener (i.e., a set of mated male and female fastener components). Engaged thickness is a measurement of the overall thickness of the engaged closure. The thickness measurement is made following initial engagement under a static load of one-half pound per square inch for two seconds and one rolling load of 11 pounds per inch of closure width. (see page 23). Peel resistance is related to the ability of the engaged fastener to resist normal disengagement loads that are applied initially at one edge of the closure, and propagate across the closure as the two fastener components are separated, such as when the closure is peeled open. (see page 22). Initial peel resistance is measured on new specimens, while final peel resistance is measured on samples previously cycled through 1000 engagements and disengagements. (see page 22).

Claim 19 requires, in pertinent part, that the loop component (e.g. 400; Figs. 13-15; p. 17, line 19 through p. 19, line 11) and the hook component (e.g. 101, 102, 102a, 420; Figs. 3-5, 8, 18-23; p. 6, line 28 through p. 10, line 18; p. 12 lines 9-25; p. 19 lines 9-27) are configured such that the fastener has an *engaged thickness* of less than about 0.11 inch and an initial peel resistance of at least 0.5 pounds per inch of closure width.

Claim 37 requires, in pertinent part, that the loop component (e.g. 400; Figs. 13-15; p. 17, line 19 through p. 19, line 11) and the hook component (e.g. 101, 102, 102a, 420; Figs. 3-5, 8, 18-23; p. 6, line 28 through p. 10, line 18; p. 12 lines 9-25; p. 19 lines 9-27) are configured such that the touch fastener has an *engaged thickness* of less than about 0.11 inch and an initial shear resistance of at least 10 pounds per square inch.

(6) GROUNDS OF REJECTIONS TO BE REVIEWED ON APPEAL

A) Claims 1-3, 7-20, 24-37 and 39-57 stand rejected under 35 U.S.C. §103(a) as being obvious over Kingsford et al. (US 6,851,161 B2) in view of Provost et al. (US 4,984,339) and Kennedy (US 6,348,419 B1).

B) Claims 5, 6, 22, 39, 40, and 55-57 stand rejected under 35 U.S.C. §103(a) as being obvious over Kingsford et al. (US 6,851,161 B2) in view of Provost et al. (US 4,984,339), as applied to claims 1, 19, and 37; and further in view of Kennedy (US 6,348,419 B1).

(7) ARGUMENT

Applicants respectfully submit that all claims are non-obvious over Kingsford in view of Provost, or in view of both Provost and Kennedy, for at least the reasons outlined below.

A) *Claims 1-3, 7-20, 24-37 and 39-57 are not obvious under 35 U.S.C. §103(a) over Kingsford in view of Provost and Kennedy.*

Kingsford discloses a thin rib-and-groove sealing closure with hook and loop fastener elements and describes how using the hook and loop fasteners elements in combination with a seal reduces the likelihood of unwanted opening of the closure (*See e.g.* col. 4, lines 15-33). However, Kingsford neither discloses nor enables the formation a particularly strong closure to perform its function, and discloses nothing regarding peel strength.

The Office concedes that Kingsford fails to disclose a touch fastener that has hook and loop components provided with a final peel resistance of at least 0.3 pounds per inch of closure width. However, the Office contends that Provost provides hook and loop components that provide a final peel resistance of at least 0.3 pounds per inch of closure width.

To establish a *prima facie* case of obviousness, the Office must establish (1) that at the time of the invention there was some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or references, or to combine reference teachings, to produce the claimed invention; and (2) that there would have been a reasonable expectation of success in doing so. Merely combining references that separately disclose all of the recited claim limitations does not, by itself, establish a *prima facie* case of obviousness. The combined references must together *enable* the invention sufficiently to have provided one of ordinary skill with a reasonable expectation of success. In this case, merely combining one reference showing a *thin* fastener with another showing a *strong* fastener does not enable how to create the claimed fastener. It was not until Applicants' invention that the claimed invention was enabled.

Provost discloses hook and loop fasteners having a profile defined by inner and outer generally concave and convex smooth surfaces, respectively. The disclosure provides a hook height of 0.050 inches \pm 0.002 inches (col. 5, line 8), but does not disclose, suggest, or enable the use of the hooks as part of a low profile closure, and discloses nothing of *overall* closure thickness, which is a property of the combination of hook and loop components as mated. Provost does disclose in Table III a range of peel and shear resistances for hooks of different materials to exemplify the performance of the disclosed hook geometry, but there is no suggestion that the peel data corresponds to either Initial Peel Resistance or Final Peel Resistance, as those terms are defined and used in the claims. Rather, it appears that such data was simply to provide a relative comparison of hook performance with a given loop. Applicants respectfully submit that, as with closure thickness, peel resistance is also a function of both the loop component and the hook component, not just of the hook. Kingsford and Provost do not disclose, suggest, or enable a manner in which to combine certain configurations of Provost's hooks (that may provide high peel and shear resistance with some loops) with other properties of Kingsford's rib-and-groove sealing closure, to obtain a low profile closure exhibiting high peel

and/or shear resistance. Thus, there is nothing in the combination of Provost or Kingsford that would have enabled a person of ordinary skill in the art to produce a touch fastener (having a loop component and a hook component) configured such that the fastener has an engaged thickness of less than about 0.11 inch and a final peel resistance of at least 0.3 pound per inch of closure width.

The Examiner takes official notice that bi-directional male fastener components and woven fabric loop components are well known in the art. For the record, Applicants do not concur that finding such elements in the prior art makes reciting them in connection with or in the context of the broader claimed invention obvious. Thus, Applicants do not concur with the Examiner's official notices, and don't concur that patentability of the claims is determined by such notices.

Kennedy discloses an extruded hook portion of a hook and loop fastener system created on a mold roll having hook forming cavities in its surface and modified to have favorable characteristics for bonding to other materials. Kennedy does not disclose any overall closure thickness, nor does Kennedy enable, in combination with Kingsford and Provost, an overall fastener falling within the limitation of the claims.

Applicants therefore respectfully submit that claim 1 and all claims that depend therefrom, are non-obvious over Kingsford in view of Provost and Kennedy.

The Office contends that a combination of the reasons given for the rejections of claims 1 and 2 (claim 2 depending from claim 1 and featuring initial peel resistance) provides adequate reasons for the rejection of claim 19 (reciting a combination of thickness and initial peel resistance), and that a combination of the reasons given for the rejections of claims 1 and 3 (claim 3 featuring initial *shear* resistance) provides adequate reasons for the rejection of claim 37. Applicants respectfully submit that these statements merely illustrate that the analysis approach employed in the examination of these claims is predominated by a treatment of each claim as a disjointed shopping list of features to be found somewhere in the prior art, not as a recitation of an invention that, although featuring specific features, should be considered as a whole. The Board and the courts have consistently maintained that obviousness cannot be established by using the Applicants' application as a template to fit together independent pieces of prior art. *See e.g. Interconnect Planning Corp. v. Feil*, 774 F.2d 1132; *Loctite Corp. v.*

Ultraseal Ltd., 781 F.2d 861; In re Fine, 837 F.2d 1071; MPEP 2141.02; and Stratoflex, Inc. v. Aeroquip, 713 F.2d 1530. Applicants respectfully submit that claims 19 and 37 and their dependent claims are non-obvious over Kingsford in view of Provost for at least the reason that the cited combination of references neither suggests nor enables a low profile closure having *both* an engaged thickness of less than about 0.11 inch *and either* an initial peel resistance of at least 0.5 pounds per inch of closure width or an initial shear resistance of at least 10 pounds per square inch.

B) Claims 5, 6, 22, 39, 40, and 55-57 are not obvious under 35 U.S.C. §103(a) over Kingsford in view of Provost, as applied to claims 1, 19, and 37; and further in view of Kennedy.

The Office concedes that Kennedy fails to disclose a hook component having a stitch hole tear strength of at least 2.0 pounds or at least 5.0 pounds. However, the Office asserts that Kennedy's disclosure of a component having a fabric sheet laminated to the hook component is *capable* of having such a stitch hole tear strength. Applicants take these statements to mean either that the Office believes that those hook components disclosed by Kennedy would *inherently* have a stitch hole tear strength of at least 2.0 pounds or 5.0 pounds, or that one of ordinary skill in the art would otherwise have been led by Kennedy to provide a fastener having such a stitch hole tear strength. Applicants respectfully disagree. In relying on inherency, the Office has the burden to show that the inherency *necessarily* flows from the disclosure of the reference used to reject the claims. It is not enough to show that a certain result *may* occur or is *capable* of occurring. Rather, the Office has the burden of showing that the result is *necessarily* occurring. See MPEP 2112; In re Rijckaert, 9 F.3d 1531; and Ex parte Levy, 17 USPQ2d 1464. As a result, the Office has failed to identify any particular teaching or aspect of Kennedy that would motivate a person of ordinary skill to provide a proposed Kingsford-Provost combination product with a particular stitch hole tear strength or to specifically reinforce a fastener product in such a way that a particular stitch hole tear strength is obtained. Furthermore, even if Kennedy did disclose a fastener product having such a stitch hole tear strength, it is improper to base the rejection of these claims on the bare assertion that all of the elements of the claims are separately disclosed in the prior art. Rather, to consider each claim as a whole would require a consideration of whether the combination of Kennedy with the other references would *enable* a

fastener having both a particularly low thickness *and* a high tear strength, for example.

Applicants submit that the combination provides no such enablement, and that such a consideration was not taken into account in the rejection of these claims.

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CONCLUSION

Applicants respectfully submit that all claims are non-obvious over Kingsford in view of Provost, or in view of both Provost and Kennedy, for at least the reasons outlined above. The brief fee of \$500 is enclosed. Please apply any other charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 05918-322001.

Respectfully submitted,

Date: January 30, 2007

/ Brett A. Krueger /

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APPENDIX OF CLAIMS

1. A releasable touch fastener comprising
a loop component having a sheet-form loop base and an array of female fastener elements extending from the loop base; and
a hook component having a sheet-form hook base and an array of male fastener elements extending from the base and configured to releasably engage the female fastener elements of the loop component;
wherein the touch fastener has an Engaged Thickness of less than about 0.11 inch, and
wherein the hook and loop components are so configured to provide a Final Peel Resistance of at least 0.3 pound per inch of closure width.
2. The releasable touch fastener of claim 1 wherein the hook and loop components are so configured to provide an Initial Peel Resistance of at least 0.5 pound per inch of closure width.
3. The releasable touch fastener of claim 1 wherein the hook and loop components are so configured to provide an Initial Shear Resistance of at least 10 pounds per square inch.
5. The releasable touch fastener of claim 55 wherein the hook base comprises a sheet of resin and the male fastener elements have stems extending contiguously from the sheet of resin, and wherein the Stitch Hole Tear Strength is at least 5.0 pounds.
6. The releasable touch fastener of claim 5 wherein the hook base includes a fabric backing laminated to a side of the hook base opposite the fastener elements.
7. The releasable touch fastener of claim 1 wherein the hook base comprises a sheet of resin, and wherein the male fastener elements have stems extending contiguously from the sheet of resin.

8. The releasable touch fastener of claim 7 wherein the male fastener elements have molded crooks.
9. The releasable touch fastener of claim 8 wherein each male fastener element has two crooks extending in opposite directions along the hook base.
10. The releasable touch fastener of claim 7 wherein the fastener elements are arranged in a density of at least 350 fastener elements per square inch of the base.
11. The releasable touch fastener of claim 7 wherein the stems have opposing surfaces defined by severed resin.
12. The releasable touch fastener of claim 1 wherein the loop component comprises a woven fabric.
13. The releasable touch fastener of claim 12 wherein the hook base comprises a sheet of resin, and wherein the male fastener elements have stems extending contiguously from the sheet of resin.
14. The releasable touch fastener of claim 1 wherein the Engaged Thickness is less than 0.10 inch.
15. The releasable touch fastener of claim 14 wherein the Engaged Thickness is less than 0.09 inch.
16. The releasable touch fastener of claim 15 wherein the Engaged Thickness is less than 0.08 inch.
17. The releasable touch fastener of claim 1 wherein the Final Peel Resistance is at least 0.4 pound per inch of closure width.

18. The releasable touch fastener of claim 17 wherein the Final Peel Resistance is at least 0.5 pound per inch of closure width.

19. A releasable touch fastener comprising
a loop component having a sheet-form loop base and an array of female fastener elements extending from the loop base; and

a hook component having a sheet-form hook base and an array of male fastener elements extending from the base and configured to releasably engage the female fastener elements of the loop component;

wherein the touch fastener has an Engaged Thickness of less than about 0.11 inch, and
wherein the male and female fastener elements are so configured to provide an Initial Peel Resistance of at least 0.5 pounds per inch of closure width.

20. The releasable touch fastener of claim 19 wherein the hook and loop components are so configured to provide an Initial Shear Resistance of at least 10 pounds per square inch.

22. The releasable touch fastener of claim 56 wherein the hook base comprises a sheet of resin and the male fastener elements have stems extending contiguously from the sheet of resin, and wherein the Stitch Hole Tear Strength is at least 5.0 pounds.

23. The releasable touch fastener of claim 22 wherein the hook base includes a fabric backing laminated to a side of the hook base opposite the fastener elements.

24. The releasable touch fastener of claim 19 wherein the hook base comprises a sheet of resin, and wherein the male fastener elements have stems extending contiguously from the sheet of resin.

25. The releasable touch fastener of claim 24 wherein the male fastener elements have molded crooks.

26. The releasable touch fastener of claim 24 wherein each male fastener element has two crooks extending in opposite directions along the hook base.
27. The releasable touch fastener of claim 24 wherein the fastener elements are arranged in a density of at least 350 fastener elements per square inch of the base.
28. The releasable touch fastener of claim 24 wherein the stems have opposing surfaces defined by severed resin.
29. The releasable touch fastener of claim 19 wherein the loop component comprises a woven fabric.
30. The releasable touch fastener of claim 29 wherein the hook base comprises a sheet of resin, and wherein the male fastener elements have stems extending contiguously from the sheet of resin.
31. The releasable touch fastener of claim 19 wherein the Engaged Thickness is less than 0.10 inch.
32. The releasable touch fastener of claim 31 wherein the Engaged Thickness is less than 0.09 inch.
33. The releasable touch fastener of claim 32 wherein the Engaged Thickness is less than 0.08 inch.
34. The releasable touch fastener of claim 19 wherein the Initial Peel Resistance is at least 0.6 pound per inch of closure width.

35. The releasable touch fastener of claim 34 wherein the Initial Peel Resistance is at least 0.69 pound per inch of closure width.

36. The releasable touch fastener of claim 35 wherein the Initial Peel Resistance is at least 0.8 pound per inch of closure width.

37. A releasable touch fastener comprising

a loop component having a sheet-form loop base and an array of female fastener elements extending from the loop base; and

a hook component having a sheet-form hook base and an array of male fastener elements extending from the base and configured to releasably engage the female fastener elements of the loop component;

wherein the touch fastener has an Engaged Thickness of less than about 0.11 inch, and

wherein the male and female fastener elements are so configured to provide an Initial Shear Resistance of at least 10 pounds per square inch.

39. The releasable touch fastener of claim 57 wherein the hook base comprises a sheet of resin and the male fastener elements have stems extending contiguously from the sheet of resin, and wherein the Stitch Hole Tear Strength is at least 5.0 pounds.

40. The releasable touch fastener of claim 39 wherein the hook base includes a fabric backing laminated to a side of the hook base opposite the fastener elements.

41. The releasable touch fastener of claim 37 wherein the hook base comprises a sheet of resin, and wherein the male fastener elements have stems extending contiguously from the sheet of resin.

42. The releasable touch fastener of claim 41 wherein the male fastener elements have molded crooks.

43. The releasable touch fastener of claim 41 wherein each male fastener element has two crooks extending in opposite directions along the hook base.

44. The releasable touch fastener of claim 41 wherein the fastener elements are arranged in a density of at least 350 fastener elements per square inch of the base.

45. The releasable touch fastener of claim 41 wherein the stems have opposing surfaces defined by severed resin.

46. The releasable touch fastener of claim 37 wherein the loop component comprises a woven fabric.

47. The releasable touch fastener of claim 46 wherein the hook base comprises a sheet of resin, and wherein the male fastener elements have stems extending contiguously from the sheet of resin.

48. The releasable touch fastener of claim 37 wherein the Engaged Thickness is less than 0.10 inch.

49. The releasable touch fastener of claim 48 wherein the Engaged Thickness is less than 0.09 inch.

50. The releasable touch fastener of claim 49 wherein the Engaged Thickness is less than 0.08 inch.

51. The releasable touch fastener of claim 37 wherein the Initial Shear Resistance is at least 15 pounds per square inch.

52. The releasable touch fastener of claim 51 wherein the Initial Shear Resistance is at least 20 pounds per square inch.

53. The releasable touch fastener of claim 52 wherein the Initial Shear Resistance is at least 25 pounds per square inch.

55. The releasable touch fastener of claim 1 wherein the hook component has a Stitch Hole Tear Strength of at least 2.0 pounds.

56. The releasable touch fastener of claim 19 wherein the hook component has a Stitch Hole Tear Strength of at least 2.0 pounds.

57. The releasable touch fastener of claim 37 wherein the hook component has a Stitch Hole Tear Strength of at least 2.0 pounds.

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EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.